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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,124	10/12/2001	Chee-Yee Chung	884.538US1	3114
21186	7590	05/04/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			DINH, TUAN T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/977,124

Applicant(s)

CHUNG ET AL

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02/13/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 27-30 and 32-35 is/are pending in the application.
- 4a) Of the above claim(s) 8, 9, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 27, 30 and 32-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 10-11, 27, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaka ('286) in view of Gobbi et al. (U.S. Patent 6,114,930).

As to claims 1-2, 27, Nagasaka discloses a resistive element (12-figures 1-2, column 4, lines 2-3) and an apparatus as shown in figures 1-11, comprising: a resistive material including first and second contact points (13a, 12a, column 4, line 24, see figure 2), the first contact point (13a) having a conductive pattern/land (17) electrically connected to an electrical component (IC chip or chip component, see column 4, lines 30-35), the second contact point (12a) connected to a circuit board plane (a surface of a substrate (11)) using at least one via (15a, column 4, line 26).

Nagasaka disclose the first contact point (13a) having ***electrically connected*** to IC chips or chip component, see column 4, lines 30-35. The electrical/chip component would be as a capacitor chip component, a decoupling capacitor, or a capacitor.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electrical or chip component as a passive component or

capacitor as taught by Nagasaka in order to reduce variation in the electrical impedance with frequency of a capacitor mounted on the PCB.

Nagasaka does not teach a summed series resistance provided by adding a value of resistance for the resistive element to an effective series resistance of the capacitor is approximately equal to an effective series resistance of a circuit board and the circuit board plane connected to circuit board.

Gobbi et al. shows an impedance controlled by the phase angle between two signals as shown in figures 2-13 comprising a summed series resistance provided by adding a value of resistance for the resistive element to an effective series resistance of the capacitor is approximately equal to an effective series resistance of a impedance component (5), see column 5, line 39 through column 6, line 21.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Gobbi et al. employed in an apparatus of Nagasaka in order to form an equivalent circuit to control a frequency applied on a circuit board or device.

As to claims 3-6, and 32-35, Nagasaka discloses the resistive material (12) includes first and second metals (column 4, lines 10-11), the first metal is nickel and the second metal is gold, see column 4, lines 30-31.

Claimed variations in relative dimensions, which do not specify a device which performs or operates any differently from the prior art, do not patentably distinguish applicant's invention. Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Ct. App. Fed. Cir. 1984).

Regarding claim 7, Nagasaka and Gobbi et al. do not specific disclose the particular dimensions of the first and second metals have a width of about 10 to about 1000 microns, a length of about 10 to about 5000 microns, and a total thickness of about 0.05 to about 2.5 microns. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a dimension of the resistive element in order to reduce sized and thickness for a miniature device, the workable dimensions of the resistive element would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the dimensional of the resistive element would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955) (Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

As to claim 10, Nagasaka discloses the second contact point (12a) is connected to the circuit board plane using a plurality of vias (15, column 4, line19).

As to claim 30, Nagasaka discloses an outside surface of the resistive element being attached (by a conductive material filled in the through holes 15).

3. Claims 1-7, 10-11, 27, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaka ('286) in view of Novak et al. ('622), and further in view of Gobbi et al. ('930).

As to claims 1-2, 27, Nagasaka discloses a resistive element (12-figures 1-2, column 4, lines 2-3) and an apparatus as shown in figures 1-11, comprising: a resistive

material including first and second contact points (13a, 12a, column 4, line 24, see figure 2), the first contact point (13a) having a conductive pattern/land (17) electrically connected to an electrical component (IC chip or chip component, see column 4, lines 30-35), the second contact point (12a) connected to a circuit board plane (a surface of a substrate (11)) using at least one via (15a, column 4, line 26).

Nagasaka disclose the first contact point (13a) having ***electrically connected*** to IC chips or chip component, see column 4, lines 30-35. The electrical/chip component would be as a capacitor chip component, a decoupling capacitor, or a capacitor. Further, Novak et al. shows a printed circuit board as shown in figure 24 comprising a capacitor (202) having terminals or leads (210, 212) mounted on and soldered to the surface of the printed circuit board, and a resistive region (250) connected to a first terminal (210) by a solder.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Novak et al. modified the component or chip of Nagasaka in order to reduce variation in the electrical impedance with frequency of a capacitor mounted on the PCB.

Nagasaka does not teach a summed series resistance provided by adding a value of resistance for the resistive element to an effective series resistance of the capacitor is approximately equal to an effective series resistance of a circuit board and the circuit board plane connected to circuit board.

Gobbi et al. shows an impedance controlled by the phase angle between two signals as shown in figures 2-13 comprising a summed series resistance provided by

adding a value of resistance for the resistive element to an effective series resistance of the capacitor is approximately equal to an effective series resistance of a impedance component (5), see column 5, line 39 through column 6, line 21.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Gobbi et al. employed in an apparatus of Nagasaka in order to form an equivalent circuit to control a frequency applied on a circuit board or device.

As to claims 3-6, and 32-35, Nagasaka discloses the resistive material (12) includes first and second metals (column 4, lines 10-11), the first metal is nickel and the second metal is gold, see column 4, lines 30-31.

Claimed variations in relative dimensions, which do not specify a device which performs or operates any differently from the prior art, do not patentably distinguish applicant's invention. Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Ct. App. Fed. Cir. 1984).

Regarding claim 7, Nagasaka, Novak, and Gobbi et al. do not specific disclose the particular dimensions of the first and second metals have a width of about 10 to about 1000 microns, a length of about 10 to about 5000 microns, and a total thickness of about 0.05 to about 2.5 microns. However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a dimension of the resistive element in order to reduce sized and thickness for a miniature device, the workable dimensions of the resistive element would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the

dimensional of the resistive element would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955) (Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

As to claim 10, Nagasaka discloses the second contact point (12a) is connected to the circuit board plane using a plurality of vias (15, column 4, line19).

As to claim 30, Nagasaka discloses an outside surface of the resistive element being attached (by a conductive material filled in the through holes 15).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-7, 10, 27, 30, and 32-35 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wildi et al. and Kweon et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a stylized, flowing script.

Tuan Dinh  
April 22, 2006..